

REMARKS

The Office Action dated May 16, 2007 has been received and carefully studied.

The Examiner objects to claims 6-9 under 37 C.F.R. §1.75(c) as being in improper form, since a multiple dependent claim cannot depend from another multiple dependent claim. By the accompanying amendment, claims 1-9 have been cancelled.

The Examiner rejects claims 1, 3 and 6-9 under 35 U.S.C. §112, first paragraph. The Examiner states that the intended scope of these claims cannot be ascertained because of the phrase "per se". By the accompanying amendment, claims 1-9 have been cancelled.

The Examiner rejects claims 1, 3, 10 and 12 under 35 U.S.C. §102(b) as being anticipated by Morrison, U.S. Patent No. 5,395,697. The Examiner states that Morrison describes a coating composition for imparting abrasion resistance to plastic substrates comprising the reaction product of an epoxysilane and an amine hardener. The Examiner notes that the term "epoxysilane" embraces not only the monomeric compounds themselves but also partial hydrolyzates/condensates derived therefrom.

By the accompanying amendment, claims 1-9 have been cancelled and claims 10 and 11 have been amended by reciting

that the solvent is selected from the group consisting of dimethylformamide, dimethylacetamide, tetrahydrofuran, methyl ethyl ketone, and methyl isobutyl ketone (organic solvents). Support for the amendment can be found on page 14, line 28 to page 15, line 2 of the specification. Methyl ethyl ketone was the solvent used in the working examples (Examples 1, 3, 5, 7, 9, 11, 13, 15 and 17). Claim 10 also has been amended by deleting the term "per se".

Morrison relates to a coating composition comprising an epoxysilane compound. Morrison describes at column 8, lines 49-52 that the silicon alkoxy groups of the epoxy silane may be prehydrolyzed to silanol groups (Si-OH) before admixing with the amine hardener by blending the epoxy silane with water and a catalyst.

That is, the invention of Morrison is directed to a silanol compound that is a monomer. To the contrary, a product made by the present method recited in claims 10-14 is a polymer which is a condensation product of a compound represented by the general formula (1a). For example, in connection with such a condensation product, the present specification mentions at page 16, lines 2-6:

"The weight average molecular weight of the epoxy group-containing silicon compound of the present invention thus obtained is preferably 400-50,000, more preferably 750-30,000, further

preferably 1200-10,000, particularly preferably about 2000-7000."

It is clear from this description that a product made by the method of the present claims 10-14 is a polymer. Therefore, the silanol compound disclosed in Morrison is different from the polymer product of these claims.

Moreover, the method for producing the silanol compound described in Morrison is carried out in water, while the method of the present claims is carried out in a specific organic solvent.

An epoxy group-containing silicon compound produced by the method of the present claims 10-14 shows an unexpectedly advantageous effect that a cured product that is excellent in heat resistance can be obtained from the compound because of the low decrease of elastic modulus even at high temperatures. Such a compound is very useful for the electrical and electronics fields in which high heat resistance of resin is highly demanded. On the other hand, an object of the invention disclosed in Morrison is to provide an abrasion resistant coating composition for polymeric substances such as polymeric ophthalmic devices (see column 1, lines 10-16). It would be extremely difficult for a person skilled in the art to predict an advantageous effect of a polymer which is completely

different from a known particular effect of a monomer. Accordingly, it is believed that the instant claims are novel and nonobvious over Morrison.

The Examiner also rejects claims 1-5 and 10-14 under 35 U.S.C. §102(b) as being anticipated by Basil et al., U.S. Patent No. 5,693,422.

Basil relates to a protective coating for plastics such as polycarbonates. Basil describes a composition comprising 3-glycidoxypropyl trimethoxysilane, water and an acid, at column 3, lines 33-45. However, Basil neither discloses nor suggests a method for producing an epoxy group-containing silicon compound, which comprises condensing at least one epoxy group-containing alkoxy silicon compound in a specific organic solvent in the present of a basic catalyst.

Accordingly, it is believed that claims 10-14 are novel and nonobvious over Basil.

The Examiner also rejects claims 1-5 and 10-13 as being anticipated by Crivello, U.S. Patent No. 6,391,999.

Crivello relates to a polymerizable siloxane oligomer. Crivello describes at column 5, lines 66-67 that the oligomer is synthesized by base-catalyzed hydrolysis and subsequent condensation. Specifically, the process is a sol-gel reaction using an ion exchange resin as a catalyst and an alcohol as a solvent (see column 6, lines 33-46).

However, the organic solvents recited in the present claims 10 and 11 do not include alcohols.

Applicant has had experiments carried out to demonstrate an advantageous effect concerning heat resistance of the present invention over the teachings of Crivello due to the difference in solvents used. A Rule 1.132 Declaration showing the results of the experiments is submitted herewith. The results reveal that if methyl isobutyl ketone (falling within the invention of the present claims 10-14) is used as a solvent, a cured product excellent in heat resistance can be obtained. Crivello is silent as to such advantageous effect.

Accordingly, it is believed that claims 10-14 are novel and nonobvious over Crivello.

Reconsideration and allowance is respectfully requested in view of the foregoing.

Respectfully submitted,


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